

NT 12A (5, 10, 15, 20, 25)

① 5 a) Area of shaded regions to unshaded

a) $1:5$

1 @ x 4 b) $2:4 = 1:2$

c) $4:2 = 2:1$

(4) d) $6:3 = 2:1$

led) 40 min = $2\frac{1}{2}$ hours

= 40 = $2 \times 60 + 20$

= 40 = 150

2 = 4 = 15

pe) $25 \text{ cm}^2 = 10 \text{ mm}^2$

= $25 \times 100 \text{ mm}^2 = 10 \text{ mm}^2$

2 = 250 = 1

② 10 a) Ratio of female to total

= $(56 - 24) : 56$

= $32 : 56$

2 = 8 = 14

= 4 : 7

10 f) $0.00032 \text{ m}^3 = \frac{8}{5} \text{ cm}^3$

= $0.00032 \times 1000000 = \frac{8}{5}$

= 320 = $\frac{8}{5}$

2 = $320 \times \frac{5}{8}$

= 40×5

= 200 = 1

b) Ratio of male : female

= $24 : 32$

= 3 = 4

③ 15 a) $0.625 = \frac{3}{8}$

= $0.625 : 0.375$

= 5 = 3

④ 20 a) Let x be no. of \$10 coins

y be no. of \$2 coins

2 $\frac{x}{y} = \frac{3}{7}$

$\frac{\text{No. of } \$10 \text{ coins}}{\text{No. of } \$2 \text{ coins}} = \frac{3}{7} = \frac{42}{y}$

$3y = 42 \times 7$
 $y = \frac{42 \times 7}{3}$
 $y = 98$

there are 98 \$2 coins

b) $1.25 = 3\frac{1}{3}$

= $\frac{5}{4} = \frac{10}{8}$

= $\frac{5}{4} \times \frac{3}{10}$

= $\frac{3}{8}$

= 3 = 8

c) $\frac{2}{9} = 1.5$

= $\frac{2}{9} = \frac{3}{2} \rightarrow (\frac{2}{9} \times \frac{3}{3})$

= 4 = 27

b) Total value :

$42 \times 10 + 98 \times 2$

= $420 + 196$

= \$616

25 a) Ratio of volume of alcohol
to water in the mixture
 $= \frac{40}{1000 - 40}$

2 $= \frac{40}{960}$

$$= \frac{1}{24}$$

or $1 : 24$

b) alcohol = 200
 $= 240 \text{ mL}$

mixture = $1000 + 200$
 $= 1200 \text{ mL}$

1 Concentration in the new mixture
 $= \frac{\text{Vol. of alcohol}}{\text{vol. of water}} \times 100\%$
 $= \frac{240}{1200} \times 100\%$
 $= 20\%$

1 Concentration in original
mixture :
 $= \frac{40}{1000} \times 100\%$
 $= 4\%$

1 \therefore The concentration in
the new mixture is
 $20 \div 4 = 5$ times
as the original mixture.